AVIATION SAFETY BULLETIN

CERTIFIED ISO 9001

ISSUE 3 | 2023

An official publication of the Civil Aviation Authority of Fiji

WHAT IS AERONAUTICAL INFORMATION ?

PASSENGERS WARNED NOT TO FLY WITH FULLY CHARGED DEVICES

FOREIGN OBJECT DEBRIS (FOD)

CYBER SECURITY IN AVIATION

'Promoting Effective Aviation Safety and Security in Fiji and the Region.'

WHAT IS AERONAUTICAL INFORMATION

TACKLING THE AVIATION STAFF SHORTAGES

In this issue…

PASSENGERS BEING WARNED NOT TO FLY WITH FULLY CHARGED DEVICES

MOVING BEYOND THE BODY MASS INDEX (BMI)

Cover Pic:
https://hensoldt-cyber.com/aviation-security-standard/

AVIATION SAFETY BULLETIN

PUBLISHED BY THE :
Aviation Safety Bulletin (ASB) Committee
Civil Aviation Authority of Fiji (CAAF)
Private Mail Bag, NAP 0354,
Nadi International Airport, **Fiji**.
Tel: (679) 8923 155
Email: info@caaf.org.fj

Editor - Roshni Deo

Committee - Alisi Namoro, Asif Khan, Edward Dass, Keverieli Atama and Elisha Naidu

Design : *ASB Committee*

PUBLICATION CONTENT Unless expressly stated as CAAF policy, the views expressed in this *Aviation Safety Bulletin* do not necessarily reflect the policy of the Civil Aviation Authority of Fiji. Articles are intended to stimulate discussion, and nothing in this *Aviation Safety Bulletin* is to be taken as overriding any Fiji Civil Aviation Legislation, or any statements issued by the Chief Executive or the Civil Aviation Authority of Fiji.

Reader comments and contributions are welcome and may be published, but the Editor reserves the right to edit or abridge them, and not to publish those that are judged not to contribute constructively towards safer aviation. Reader contributions and correspondence regarding the content of *Aviation Safety Bulletin* should be addressed to:

Aviation Safety Bulletin Editor, CAA Fiji, Private Mail Bag
NAP 0354, Nadi International Airport, Fiji *or*
email: info@caaf.org.fj

DISTRIBUTION

Aviation Safety Bulletin can be downloaded from CAAF's website, **www.caaf.org.fj .**

Message from the desk of
Chief Executive

Ni Sa Bula Vinaka !

Welcome to the Civil Aviation Authority of Fiji's (CAAF) third edition of its Aviation Safety Bulletin (ASB) for 2023.

Under the Civil Aviation Authority of Fiji Act 1979, CAAF is assigned the responsibility of encouraging *a greater acceptance by the aviation industry of its obligation to maintain high standards of aviation safety and security, through comprehensive safety education and fostering of awareness within the industry, and within the community generally, of the importance of aviation safety and security and the need for compliance with relevant legislation*. The ASB is one of the many platforms that CAAF uses to discharge this responsibility.

This year has seen several changes to the governance at CAAF. In the second quarter, we welcomed a new Board of Directors, headed by the Chairman, Mr. Eliki Kaumaitotoya. The Board of Directors come from various backgrounds and brings with them a plethora of experience, the Board is introduced in the article *Meet the CAAF Board*. We take this opportunity to thank the outgoing Board of Directors, who steered CAAF safely through the pandemic period.

This last quarter also saw some major shifts within the executive management of CAAF. My appointment as Chief Executive of the Authority, saw me relinquish my role as Executive Manager Ground Safety. The Executive Manager Air Safety, Mr Jimmy Samson, has departed CAAF, but fortunately this will not be a loss to aviation, as he takes on another senior role within the industry. Both these Executive Manager roles are being filled on an acting basis whilst the recruitment and selection process is underway. Permanent appointments are due to be made before the end of the year.

We, in aviation, are at an exciting juncture, one where aviation is evolving at a very fast and interesting manner. Established norms are being challenged and the industry continues to call for more innovative solutions to enable us to keep abreast of the continuous changes.

CAAF has not been immune to requests for change; change in the way we operate and change to how aviation is regulated. Legislation and standards that have served us well till now, require review to ensure that they maintain the safety and security of our aviation system whilst at the same time remaining relevant to the needs of the industry and the changes occurring in our aviation landscape. We are working on this within the confines that we find ourselves in; resource (manpower) shortage, increase in operator requests, and new entrants and activities, to name a few.

In this bulletin, the article *Tackling Aviation Staff Shortages* brings home the all too real issue of the exodus of aviation personnel from our shores following the recovery of aviation worldwide. CAAF has not been immune to this problem, and we have made this one of our key priority areas to be addressed in 2023. A vigorous recruitment drive has been underway to fill our vacant positions. We believe that once we are well-resourced with competent personnel who have the right mindset, we will be able to exceed industry expectations and at the same time fulfill our national and international obligations.

The exponential rise in aviation activity brings with it an increase in carbon emissions. As such, the need to ensure that plans are developed and implemented to achieve international civil aviation's goal of net zero by 2050 is critical. On request from the International Civil Aviation Organisation (ICAO), Fiji hosted the *ICAO Workshop on State Action Plans to Reduce CO_2 Emissions*; this bulletin contains an article on this.

Furthermore, other articles on pertinent issues that have been highlighted during audits, inspections, and investigations or have been flagged as upcoming issues requiring more awareness have been included in this bulletin. Topics include *Cyber Security*, *Aeronautical Information*, *Foreign Object Debris*, *Licensing (Aircraft Maintenance Engineers and Pilots)*, the *Power to Require Information,* and a thought-provoking article on *Moving beyond the Body Mass Index*.

I hope you enjoy this edition and find it relevant and interesting. To help us improve the content of the ASB, I encourage your input in terms of suggestions and/or articles you have written that meet the objective of this publication.

Until the next bulletin, let us continue our efforts toward a safe, secure, efficient, and sustainable aviation system for Fiji and the region■

Stay Safe. Vinaka

Ms Theresa O'Boyle-Levestam
Chief Executive

Mr. Eliki Kaumaitotoya

Message from CAA Fiji Board Chair

We are proud to announce the appointment of Ms Theresa Levestam as Chief Executive (CE) of the Civil Aviation Authority of Fiji (CAAF), the first female CE of CAAF. She had been acting Chief Executive since 2020 and successfully led CAAF safely through some challenging storms with minimum resources.

The CAAF Board is committed to support and guide the Executive Management team achieve its goal for a safe and secure aviation industry in Fiji, complying with the Laws of the State and ICAO standards. Efforts by the committed and dedicated staff have not gone unnoticed by the Board and we will do all we can to give CAAF the recognition and respect it duly deserve as acknowledged in other nations worldwide.

The Board of Civil Aviation Authority of Fiji acknowledges and appreciates the efforts of our predecessors and the challenges they faced that are beyond their control■

Minister for Tourism & Civil Aviation—Hon Viliame Gavoka , CAA Fiji Board Chair, Mr. Eliki Kaumaitotoya and other Board Directors with CAA Fiji Chief Executive with other Executive members.

ICAO Workshop

State Action Plan (SAP) to Reduce CO2 Emissions

The ICAO, Asia and Pacific (APAC) Office conducted the ICAO workshop for the Pacific Small Island Developing States (PSIDS) on the State Action Plan (SAP) to reduce CO2 emissions from International Aviation, from 11th to 15th September 2023, Nadi, Fiji.

The ICAO workshop which was hosted by Fiji, was opened by Ms. Salaseini Daunabuna the Permanent Secretary of the Ministry of Tourism and Civil Aviation. She thanked ICAO for the steps it was taking to assist PSIDs in meeting ICAO's obligations in this area.

The workshop was attended by 29 participants from six (6) PSIDS (Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, and Vanuatu) from the Civil Aviation Authorities, aeroplane operators, airport operators, and air navigation service providers.

The workshop was conducted by the ICAO APAC Regional Officer for Environment and Climate Change, Mr. Sayuta Senobua.

The workshop provided participants the knowledge and technical guidance to assist PSIDS, develop and review their State Action Plans to reduce CO2 from International Aviation.

To date, 140 States representing 98.53% of global RTK have voluntarily submitted their SAPs to ICAO■

For more information on ICAO SAPs:
https://www.icao.int/environmental-protection/Pages/ClimateChange_ActionPlan.aspx

The Permanent Secretary for Tourism & Civil Aviation, Ms. Salaseini Daunabuna (left), ICAO APAC Regional Officer for Environment & Climate Change—Mr. Sayuta Senobua (middle), CAAF Chief Executive—Ms. Theresa Levestam (right) with participants from PSIDS

Cyber Security In Aviation

Aviation security faces an ever-growing challenge in the form of cyber threats. As industry stakeholders responsible for the implementation of aviation security measures and procedures, it is crucial for us to stay informed about global trends and developments in aviation cybersecurity.

This article aims to shed light on the escalating risk of cyber-attacks in aviation, underscore the significance of robust cybersecurity measures, emphasize the need for regular oversight, and highlight the importance of fostering a security culture that complements existing security layers.

Escalating Cyber Threats in Aviation

The aviation industry has become an attractive target for cybercriminals seeking to exploit vulnerabilities in critical systems and infrastructure. Cyber threats range from unauthorized access to flight systems and manipulation of air traffic control systems to data breaches compromising sensitive passenger information. The gravity of these threats should not be underestimated, as they have the potential to undermine aviation safety and disrupt operations.

International Efforts in Aviation Cybersecurity

Recognizing the severity of the situation, international organizations such as the International Civil Aviation Organization (ICAO) and the Cybersecurity and Infrastructure Security Agency (CISA) are taking proactive steps to enhance aviation cybersecurity. These organizations are actively developing guidelines and standards to address the evolving cyber threat landscape. It is crucial for industry stakeholders responsible for implementing aviation security measures to stay informed about these initiatives and ensure that local cybersecurity measures align with global best practices. Regular updates and reinforcement of security procedures based on the latest recommendations from ICAO and other relevant bodies are imperative.

Strengthening Cybersecurity Measures

Protecting aviation systems from cyber-attacks necessitates the development and implementation of robust cybersecurity measures. Secure network infrastructure, multi-factor authentication, data encryption, regular vulnerability assessments, and proactive monitoring for intrusions or anomalies are some key aspects that need to be addressed. Collaboration with cybersecurity experts can help identify and rectify potential weaknesses in local aviation systems.

Building Cyber Resilience through Training and Awareness

Creating a strong cybersecurity culture is instrumental in mitigating cyber threats in our aviation sector. Comprehensive training programs should be implemented to educate industry stakeholders about the risks associated with cyber-attacks and enhance their understanding of their role in maintaining a secure operating environment. Promoting cybersecurity awareness campaigns, encouraging reporting of suspicious activities, and fostering a proactive approach towards cybersecurity among all aviation stakeholders are essential steps in building a resilient cybersecurity ecosystem.

Establishing Strong Legislative Framework for Cybersecurity

Robust legislation is vital to reinforce oversight and act as a deterrent against cybercriminals in the aviation industry. It ensures that all stakeholders, including airlines, airports, and regulatory bodies, adhere to stringent cybersecurity standards, fostering a culture of proactive defense. Comprehensive regulations encompassing data protection, privacy, vulnerability management, and incident reporting, along with regular audits and inspections, are necessary to continuously monitor and mitigate potential vulnerabilities. Collaboration between governmental bodies, regulatory authorities, and industry stakeholders is crucial in developing and implementing robust cybersecurity legislation, fortifying the aviation sector against emerging threats and safeguarding critical infrastructure and passenger safety.

Case Study 1:

The European Union's General Data Protection Regulation (GDPR) (2018): The implementation of the GDPR serves as a significant example of the need for robust security legislation. The GDPR is a comprehensive data protection regulation that establishes strict guidelines for the collection, processing, and storage of personal data of individuals within the European Union. It grants individuals greater control over their personal information and imposes hefty fines for non-compliance.

The GDPR was introduced in response to various high-profile data breaches and privacy concerns. For instance, the Cambridge Analytica scandal in 2018 revealed how a political consulting firm obtained and misused the personal data of millions of Facebook users without their consent. This incident, along with other data breaches, exposed the vulnerabilities in data protection practices and necessitated stronger legislation to protect individuals' privacy rights.

Case Study 2:

The Twitter Bitcoin Scam (2020): In July 2020, several high-profile Twitter accounts were hacked as part of a coordinated social engineering attack. The attackers gained access to the accounts of prominent individuals and organizations, including Elon Musk and major cryptocurrency exchanges, and posted tweets promoting a Bitcoin scam. This incident highlights the need for security awareness among social media users, emphasizing the importance of being cautious about sharing sensitive information and recognizing potential phishing attempts.

In the face of mounting cyber threats, safeguarding aviation from cyber-attacks requires a collaborative effort from all industry stakeholders responsible for implementing aviation security measures. By prioritizing robust cybersecurity measures, conducting regular oversight, fostering a security culture, and aligning with international cybersecurity guidelines, Fiji’s aviation sector can enhance its resilience. It is crucial for stakeholders to remain vigilant, adapt to evolving threats, collaborate with international partners, and make cybersecurity a top priority to ensure the continued safety and security of aviation operations at our airports■

WHAT IS AERONAUTICAL INFORMATION?

High-quality, reliable information we simply cannot live without it

Information is a little bit like air; it is invisible. One cannot see it, or touch it but without air, one cannot live; or, as in the case of information, one cannot make decisions. Decision-making involves collecting information, analyzing it, and putting the information into context in order to be able to make decisions. Flight operations involve a constant sequence of well-informed decisions.Very often, these decisions and the actions that stem from them are safety critical. As a consequence, bad information lead to bad decisions, and bad decisions always compromise aviation safety! It's as simple as that.

AIS keeps information up-to-date

Annex 15 – *Aeronautical Information Services* states that aeronautical information shall be kept up to date. The timeliness of information is one of the key quality criteria for the provision of aeronautical information. AIS employs different update mechanisms to keep the information current, namely:

- **AIP Amendment**
- **AIP Supplement**
- **NOTAM**
- **AIC - Aeronautical Information Circular**

Operationally significant information

Not all information is created equal! Some information is considered operationally significant, as spelled out in Annex 15. The annex states that whenever we are dealing with operationally significant information and the changes thereof, implementation dates shall be based on AIRAC effective dates. This ensures that all stakeholders within the air traffic management system are in sync, and allows for sufficient time for the processing of the information. The AIRAC cycle allows for proper planning and work load balancing across the aeronautical data chain. It also permits flight crews and other personnel concerned with flight operations to prepare for and, if needed, train for the new situation described by the information. It is imperative for the dissemination of operationally significant information to strictly adhere to the AIRAC cycle.

Digital transformation

Increasingly, aeronautical information is being provided digitally using AIS automation systems. Traditional aeronautical information products, like the aeronautical information publication (AIP), are partially being replaced by digital data sets. Annex 15 lists the first digital data sets for the provision of aeronautical information in digital format. They are:

- AIP data set;
- Terrain and obstacle data sets;
- Aerodrome mapping data sets; and
- Instrument flight procedure data sets.

Collectively, these digital data sets are at the forefront of the digital transformation from product-centric AIS to a data-centric aeronautical information management (AIM). In the future, it is envisioned for these data sets of aeronautical information to be exchanged across the entire ATM system via system-wide information management (SWIM), a network-centric approach to information exchange.

Quality

As we transition from AIS to AIM, ensuring the quality of aeronautical information becomes ever more critical. Implementing an effective quality management system covering all aspects of aeronautical information services is the means to ensure that our AIS automation systems produce high-quality information. Without stringent quality assurance and control processes, automation systems run the risk of producing aeronautical information according to the old adage of “garbage in, garbage out”.

The digital transformation of AIS cannot be successful without the assurance that the aeronautical information we provide is fit for its intended use. Flight crews and other operational personnel around the world place their trust into our aeronautical information, and that trust has to be earned every single day.

SOURCE: ICAO – IFAIMA FLYER

Image: extreme-photographer

Tackling The Aviation Staff Shortages

The ensuing problem of the aviation staff shortages is one of the most critical challenges facing the industry. While much has been made of the pilot shortage which is serious, there is also a pronounced shortage of aircraft maintenance technicians. According to Oxford Economics, the aviation industry lost over 2.3 million jobs since 2019,which is 21% less than before the pandemic. The International Civil Aviation Organization (ICAO) estimated that by 2026, the aviation industry would require 480,000 new technicians to maintain aircraft and over 350,000 pilots. The labor shortage in aviation is leading to flight delays, flight cancellations, and poor passenger experiences. Understanding the market dynamics at play is important to identifying new strategic workforce planning measures and leading-edge technologies to drive them.

MARKET DYNAMICS

There are several major market developments which have contributed to aviation's staff shortages. They include:

- The pandemic – While there already existed a staff demand in aviation prior to COVID-19, the pandemic led to airports and airlines significantly reducing their staff.
- Maintenance Repair Organizations (MROs) will experience the greatest impact from the labor shortage in aviation.
- The labor situation with existing workers is steadily deteriorating. – This is particularly true with aircraft maintenance technicians who earn much lower pay than pilots, must often work late shifts, and are now having to work under shorter booking maintenance intervals which were once scheduled with several weeks' notice and now have to be done six months in advance.
- Oliver Wyman projects a shortfall of between 12,000 and 18,000 aviation maintenance workers and that the discrepancy between supply and demand will persist and worsen over the next 10 years.
- An aging aviation industry workforce is not being replaced by younger generation workers who are displaying a lack of interest in the field.
- Passengers take to social media to vent their anger. – Frustrated by flight cancellations and delays leading to disrupted vacations, weddings and business plans, passengers have taken to using social media to express their anger. A recent U.S. Department of Transit report stated that there was a 35% increase in service complaints from May to June 2022 which represents a 270% increase over pre-pandemic levels.
- Airlines experienced financial losses of $168 billion in 2020 and airports, catering and ground services suffered losses of $31.6 billion, $2.4 billion, and $3.2 billion, respectively. This represents a cumulative loss for the aviation industry of $230.1 billion from 2012 to 2020. As a result of what is clearly a dire situation, members of the aviation industry are reacting.

INDUSTRY'S RESPONSE TO THE AVIATION STAFF SHORTAGES

In light of what is the aviation industry's most pressing problem today, industry associations and aviation companies are responding in different ways, United Airlines CEO Scott Kirby in noting that the airline industry did not make investment in the future to facilitate its recovery from the pandemic stated, "That means the system simply can't handle the volume today, much less the anticipated growth." He added that United is hoping to hire 8,000 pilots through 2023.

Emirates Airline President Tim Clark echoed Kirby's comments about the industry's failure to prepare for the future. He cited inadequate investments in air navigation systems, new technology, skilled aviation workers, and infrastructure. In a highly publicized example of the impact of the aviation staff shortage, London's Heathrow, 100,000 travelers in October 2022 knowing that it was unable to meet demand.

Beyond these responses, the industry is looking at technology to help with strategic workforce planning to help combat the challenges of staff shortages in aviation.

ADVANCED SOLUTIONS/TECHNOLOGIES HELP ADDRESS AVIATION STAFF SHORTAGES

The underlying problem

Simply stated, the demand for aviation professionals will exceed supply. Factors include:

- wholesale retirements in the current generation of aviation professionals;
- aviation professions not attractive enough to potential candidates;
- competition with other industry sectors for skilled employees;
- training capacity insufficient to meet demand;
- learning methodologies not responsive to new evolving learning style;
- accessibility to affordable training;
- lack of harmonization of competencies in some aviation disciplines; and
- little awareness by the "next generation" of types of aviation professions available.

Today's technology solution providers have advanced software solutions that effectively support airlines, airports and ground handlers in better planning and managing their labor resources. Planning solutions leverage Artificial Intelligence, Machine Learning and predictive algorithms drive optimized workforce management and shift demand planning, as well as infrastructure resource utilization, and "what-if" planning scenarios. Applying workflows and rule-based proposals, these solutions deliver formidable benefits including enhanced service performance, reduced flight delays, and improved passenger satisfaction. They also better accommodate aviation employees by giving them online access to a portal where they can view schedules, swap shifts, and make vacation requests. For planners, being able to better forecast supply and shift demands frees them up to focus on other core functions. They can align short- and long-term personnel capacity and demand, optimize scheduling model, and using the information, assess productivity.

In another example of a technology that supports better labor resource management, there are optimization software solutions that recommend replacements when additional flights require personnel on short notice. These solutions generate robust reports that provide information essential to an effective planning process. When integrated with real-time scheduling systems, the results can be extremely powerful.

One type of technology, which is particularly effective in helping address the ground handling labor shortage, is planning and rostering software. In a sector where staff fluctuations are also a common problem, this technology can optimize workload coverage in the most useful way. For planners to accurately assess whether or not their current staff can cover the demand, they need to be able to evaluate **different demand scenarios** and related outcomes. Through the use of "what-if" scenarios, planners can make informed decisions to maximize their available human resources.

Software solutions facilitate agile decision-making and deliver improved forecasting of future staffing demands, management of work volumes, and **optimized staff schedules** which meet demands, while also promoting greater staff satisfaction by best accommodating their preferences. Using advanced software, rosters can be created which support them prior to the day of operations. These rosters take into consideration that staff qualifications may have changed, which can then be addressed by changing the shifts and tasks for various ground handling staff. Other key criteria also considered include service level agreements (SLAs), legal and union regulations, as well as staff absences, sick leaves, and requests.

There are many benefits from **deploying advanced technologies,** ranging from enhanced strategic workload/workforce analyses, scenario planning capabilities, and optimized workload coverage, to automated staff schedule creation, better monitoring of plan deviations, better adherence to SLAs, increased staff satisfaction, improved service times and safety performance, and upgraded customer service.

In a period where the ground handling labor shortage is expected to continue for the foreseeable future, leveraging best practices which include new training initiatives, programs focusing on employee well-being, and collaboration through technology is a measure all ground handling companies should be taking very seriously. For the airlines, airports and ground handlers, this optimized management of labor resources helps to maximize revenues and empower them with greater operational resilience to better tackle unexpected disruptions■

Source: 1). ICAO ; 2). Inform-software.com

Why passengers are being warned not to fly with fully charged devices

The United States' Federal Aviation Administration (FAA) has warned passengers not to fully charge their devices for a flight due to increased cabin fire risk, despite many next-gen cabins featuring personal charging ports.

The US government's aviation regulator issued the warning in a post on X (the rebranded Twitter) featuring a video snippet of an episode of the department's podcast *The Air Up There*, titled '***Fly Safe with Lithium Batteries'***.

A full charge may increase the chances of a fire. If you won't be using it on your flight why risk it?

While the risks of lithium-ion battery-powered devices such as smartphones are nothing new short of switching off devices completely, maintaining them at a lower battery level for the flight helps to lower the risk of overheating and causing a fire.

If [the device is] at 30%, say, or lower, it's less likely to undergo thermal runaway and the reaction would be less severe.

Before getting on an airplane, do you charge your lithium powered devices to 100%? A full charge may increase the chances of a fire. If you won't be using it on your flight why risk it? Learn to prepare your devices for a safe flight at https://t.co/y5CqWLYtE7. #podcast #PackSafe pic.twitter.com/xzq611Hfw5

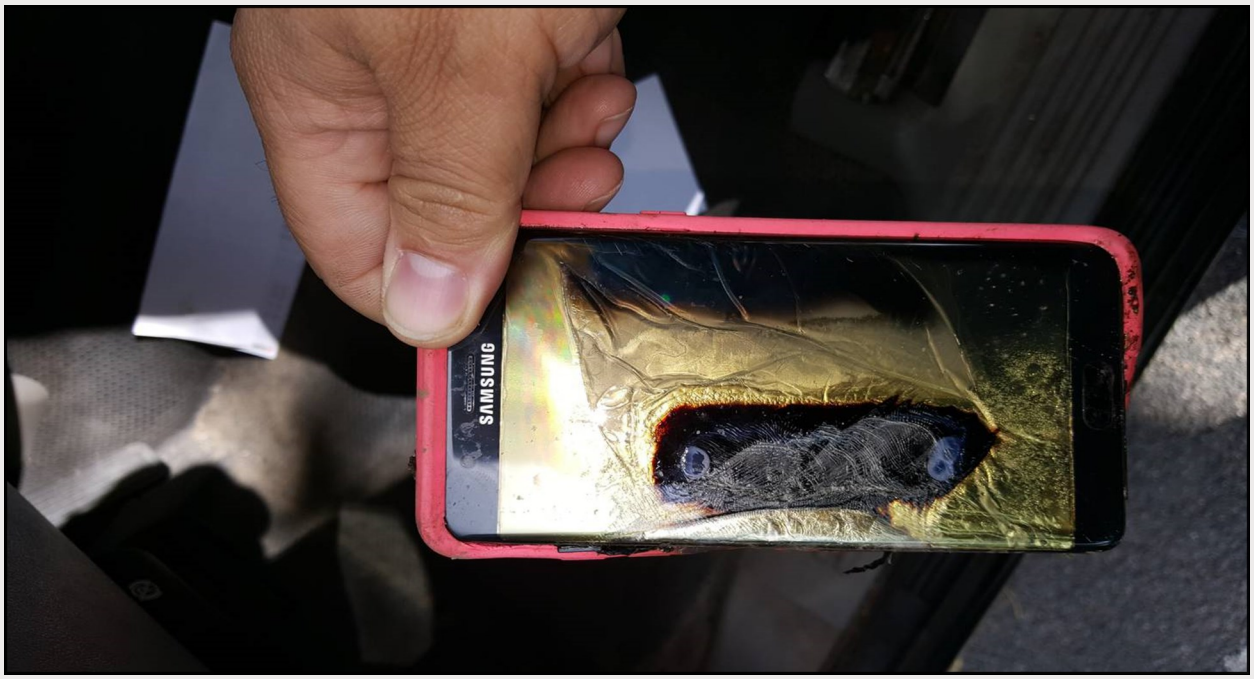
— The FAA ✈ (@FAANews) July 23, 2023

A fully charged lithium-ion battery carries a higher risk of thermal runaway, the process in which a lithium-ion cell enters an uncontrollable self-heating state.

Associate professor Mark Gregory, a technology expert at RMIT University in Melbourne, Australia, describes it as "***a buildup of heat that cannot be dissipated quickly enough to prevent gas being given off, a fire or explosion".***

"Exposure to high temperature or pressure can have adverse effects on fully charged lithium-ion batteries," said Gregory. Cell reversal can occur when a battery is stressed causing a permanent electrical short that can, in some situations, lead to thermal runaway and a resulting fire. The batteries contain electrodes that are highly flammable.

America's aviation regulator has warned passengers not to fly with a device charged to 100% despite many cabins featuring charging ports.



Phones and personal devices with chargeable lithium batteries come with a fire risk that the FAA wants to address.

Incidents involving the batteries are becoming more common due to a combination of wider usage, manufacturer issues and device misuse. Product defects and ageing devices are also associated with an increased risk.

The hazards of transporting these batteries on aircraft are well documented, and it's common practice for cabin crew to include a boarding announcement asking passengers who drop a device to notify crew and not attempt move their seat in an effort to find it.

In June 2016, a Boeing 747-438 Qantas flight from Los Angeles reported an incident in which a passenger in business class advised crew of a missing personal device, and in trying to retrieve it with the crew member crushed the device, causing it to ignite and trigger a basic fire drill procedure.

The Civil Aviation Authority of Fiji, emphasized that batteries are considered dangerous goods when transported by air.

Civil Aviation regulations and the Security Standards Document prohibit loose or spare batteries and power banks from checked-in luggage, and when carried in carry-on luggage must be individually packaged and protected from short circuit, for example covering the terminals with electrical insulation tape.

Electronic devices in checked baggage must be completely switched off, protected from damage, and protected from inadvertent activation.

While there is no specific requirements or guidance relating to the volume of charge, the advice from the FAA is accurate.

Wherever there are additional measures passengers may take to further increase safety and security, we welcome their cooperation.

The FAA's safety warning comes at a time in which airlines are increasingly integrating personal devices into the inflight experience.

It's common practice for commercial carriers to issue electronic boarding passes to smartphones, and many are retiring seatback screens with onboard entertainment in favour of better wireless systems and content streamed direct to passengers' devices.

New Australian carrier Bonza requires passengers order meals and drinks through their app, while aircraft fitted with personal USB charging ports are becoming the industry standard. Having a powered device in transit has never been more crucial.

But does this translate to more onboard incidents involving the batteries?

In Fiji, the Civil Aviation Authority of Fiji (CAAF) works closely with airlines and other regulators to identify emerging risks presented by advancements and the expanded use of technology, including those cited above.

There is a greater risk presented by portable devices slipping into the seat mechanism and being damaged, leading to either an unusable phone, or potentially the battery overheating.

Airline cabin crew are trained to deal with onboard emergencies involving fire and smoke on board, and passengers are advised to notify a crew member and follow instructions when required■

Source: Article adapted and edited, STUFF.CO.NZ (Travel)

Foreign Object Debris (FOD)

Aerodrome Operational Management

Overview

The systematic strategy and actions taken to prevent, identify, and remove any foreign items or debris that may represent a safety concern to aircraft operations is referred to as FOD (Foreign Object Debris) management at airports. Foreign objects can range from loose tools, screws, or bolts to rocks, animals, or even trash like plastic bags and bag tags. For an airport to continue operating safely and effectively, FOD control must be effective.

The **ICAO Annex 14** (Chapter 20, para 10.2.1) describes that *"The surfaces of all movement areas including pavements (runways, taxiways, and aprons) and adjacent areas shall be inspected and their conditions monitored regularly as part of an aerodrome preventive and corrective maintenance program with the objective of avoiding and eliminating any foreign object debris (FOD) that might cause damage to aircraft or impair the operation of aircraft systems.*

FOD hazards can be reduced by implementing an FOD control program, which normally includes FOD prevention, detection, removal, and evaluation.

It is important that all personnel with access to the movement area understand their role in the prevention of FOD.
It is necessary to have an established process to regularly clear the movement area of FOD. FOD is everyone's responsibility.

FOD may be controlled by ensuring that all personnel with movement area access, in particular inspection/maintenance personnel and ground handlers, are aware of situations that may potentially cause FOD. *(ICAO PANS-Aerodrome, 2020).*

Definition

Foreign object debris (FOD) – is defined as an inanimate object within the movement area that has no operational or aeronautical function and which has the potential to be a hazard to aircraft operations. *(Annex 14 Vol 1 Edition 9, July 2022)*

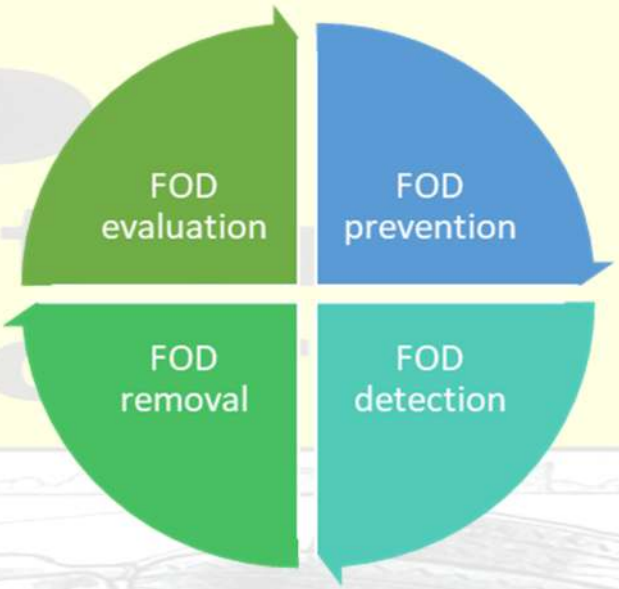
How to implement an effective FOD Management Program (FMP)

FOD Management Program is a systematic approach established by stakeholders to prevent, detect, and eliminate foreign object debris and the primary objective of a FOD Management Program is to minimize the risk of FOD-related incidents which can incur costs, accidents, and even catastrophic events. The FMP must be designed as such to ensure the safety of personnel, equipment, and infrastructure by establishing procedures and practices that effectively manage FOD risks. As such the FOD Management Program (FMP) may include the following: -

1. Establishment of a FOD control program commensurate with the assessed risks and appropriate to the local operating conditions and shall consist of prevention, detection, removal, and evaluation;
2. The FOD program shall include awareness training and education as well as measures for FOD prevention;
3. The FOD program shall include FOD detection methods for the monitoring and inspection of the movement area;
4. Operational procedures and equipment where applicable shall be provided for the removal, containment, and disposal of FOD from the movement area; and
5. FOD data and information systems shall be collected and analyzed regularly to identify sources and trends. *(ICAO PANS-Aerodrome, 2020).*

FOD Operational Practices

The safety and effectiveness of aerodromes depend on FOD (Foreign Object Debris) operational procedures. Any material, substance, or debris that is situated improperly in an airport and has the potential to hurt people or damage an aircraft is referred to as FOD. These operational procedures seek to reduce the amount of FOD on the airfield and provide a secure environment for flying.



The ICAO PANS-Aerodrome Edition 3 stipulates operational practices that need to be implemented at an aerodrome as illustrated.

FOD prevention

- **FOD awareness** - encourage identification of potential FOD hazards
- **Training and education** - increase employee awareness of the causes, its effects, and promote effective participation *(refer to ICAO Doc 9981 PANS Aerodrome edition 3 Appendix 1 - FOD Traing Syllabus).*
- **FOD prevention measures** - identification of safety risks as detailed in the FOD Control Program *(refer to ICAO Doc 9981 PANS Aerodrome edition 3 Appendix 2).*

FOD detection

- Inspection program
- Applicable FOD detection devices

FOD removal

- Mannual removal, or
- Mechanical methods

FOD evaluation

- Recording,
- Source of FOD,
- Analysis, and
- Evaluation

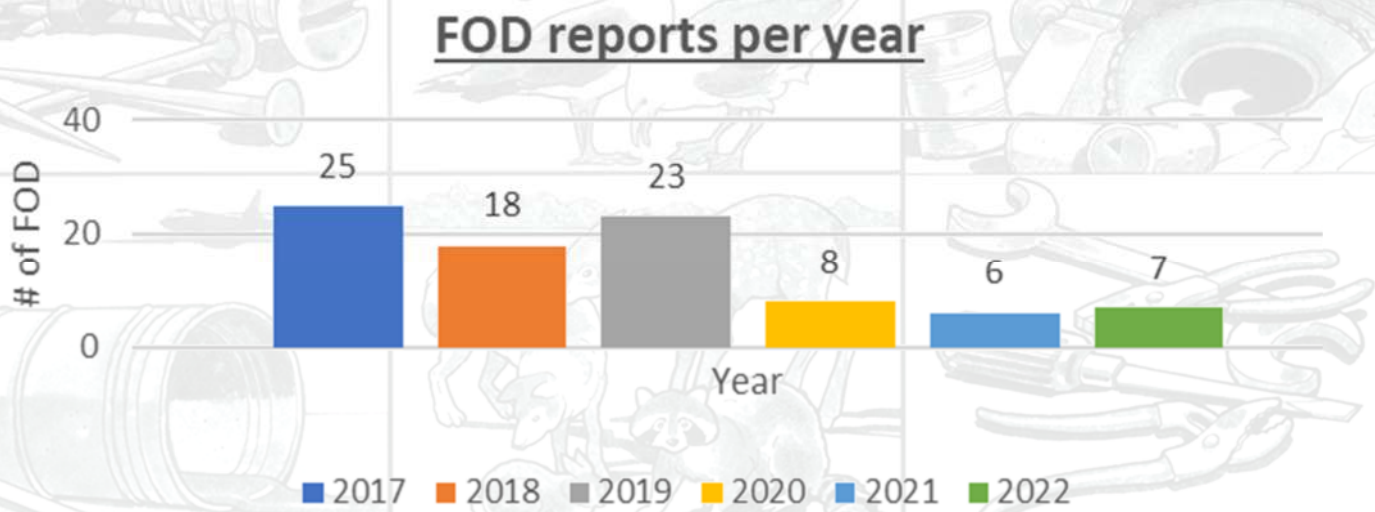
Foreign Object Debris (FOD)

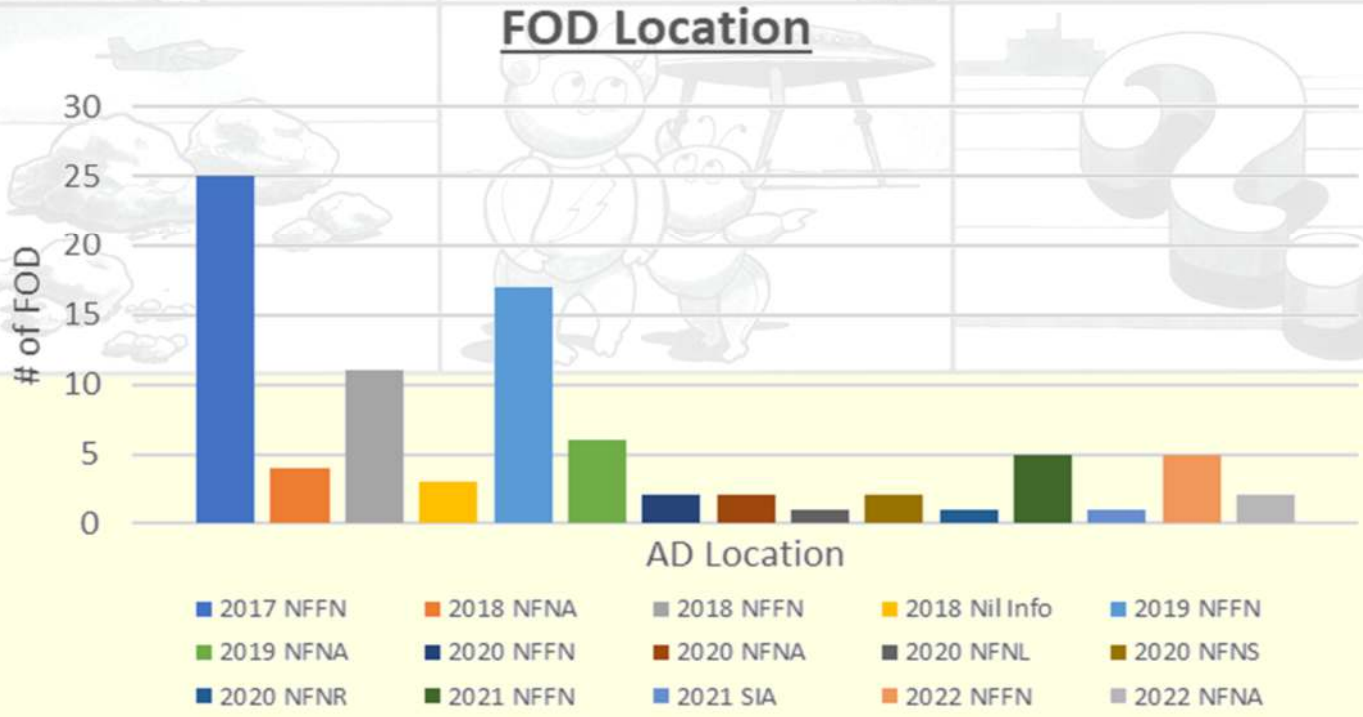
Aerodrome Operational Management cont....

FIJI STATISTICS ON FOD OCCURRENCES

From Jan 2017 to Dec 2022, there were a total of 87 FOD reports received. The most common types of FOD recorded:

- Loose Chips/Stones/Rocks
- Fuel caps (Rubber Head/Cap/Bung)
- Screws/Nuts/Bolts
- Screwdrivers/Spanners
- Pens
- Wildlife carcass (birds/frogs)
- Dipsticks
- Pieces of wood/metal/pipes
- Watches





Source: FOD Data—CAAF AQD

Aircraft Maintenance Engineer Licence
Oral Exam Application Process

1 Formal Application

Applicant submits PL103J form with supporting documents and pays relevant fees:

a) Human Factors
b) Performance certificate
c) Up to date personal Experience Log Book

*Application Forms can be accessed from our website www.caaf.org.fj or collected from the counter.

2 Application Evaluation

Form is checked for completeness, accuracy and payments, then assessed as per the Standard Document by Subject Matter Expert (SME).

3 Oral Exam Dates

Oral Exam Dates are e-mailed to Applicants in advance (2 weeks notice) as per scheduled dates given by PEL office on the availability of Subject Matter Expert (SME) .

4 Verification & Endorsement

Upon successful completion of Oral Exam, fees are paid according to Ratings tested.
Rating Certificate is verified and endorsed.
Post procedures are conducted

5 Ready for collection

Rating Certificate is issued to applicant.

ISO 9001:2015 CERTIFIED
Civil Aviation Authority of Fiji

Contact CAAF
Office Number: (679) 892 3155
E-mail: info@caaf.org.fj
Website: www.caaf.org.fj

Meet the CAA Fiji Board

Chairperson – Mr. Eliki Kaumaitotoya

Mr Eliki Kaumaitotoya was the former Manager Quality Assurance for Air Terminal Services Fiji Ltd. He started as an aircraft engineer and later became a licensed aircraft maintenance engineer for Qantas Airways Ltd.

Mr. Kaumaitotoya's aviation career spans over 35 years with extensive experience in aircraft maintenance, aviation security, safety management, quality assurance and quality control.

Deputy Chairperson – Mr. Peceli Baleikorocau

Mr. Peceli Baleikorocau is currently a Consultant in HCM & Dev. He brings with him over 30 years of experience in the field of human capital planning, management and development. Mr Baleikorocau has a Degree in Commerce and Board Director Governance Certification. Attended Local and Overseas Executive Programs. Also, a keen listener and motivational speaker in children and youth development and a community worker. Mr Baleikorocau has been serving on the CAAF Board for the past 4 years.

Director – Mr. James Sowane

Mr James Sowane is the Managing Director of TEWAKA, a 100% Fijian owned and operated tourism transport and destination management services company that he co-owns and operates with wife Lala Sowane for the past 24years.

He has 29 years of experience in the tourism industry and has previously served as an Electoral Commissioner and as members of the Boards of Fiji Visitors Bureau (now Tourism Fiji) and Society of Fiji Travel Associates. He also recently Chaired the Board of the Land Transport Authority.

Mr Sowane attained a Bachelor of Commerce from Lincoln University in New Zealand, he attended Marist Brothers High School and hails from Tubou Village, Lakeba, Lau.

Director – Ms. Marigold Moody

Ms Marigold Moody is in-house counsel at Natural Waters of Viti, the manufacturing arm of FIJI Water, and has previously been in private practice in Fiji and New Zealand. She has a strong interest in the transport sector and has over 20 years of legal and strategic commercial experience that will enhance the management and operational efficiency of CAAF.

Director – Mr. George Tudreu

Mr George Tudreu is currently the Global Aviation Safety Oversight System (GASOS) Safety Advisor of the Pacific Aviation Safety Office (PASO), an intergovernmental civil aviation authority that is responsible for aviation safety and security in ten states of Oceania. He has 22 years of extensive experience in aviation management and regulatory oversight and has held various senior positions in the aviation sector including Operations Quality Manager for Air Pacific Limited, Flight Operations Inspector - Training & Standards and Head of the Personnel Licensing Section and Controller Air Safety of CAAF. He was also briefly Acting Chief Executive of CAAF in 2019. Mr Tudreu holds a Bachelor of Aviation Degree from Massey University School of Aviation, New Zealand Diploma in Business Administration, multiple Aviation qualifications and certifications from ICAO and IATA as well as being a qualified pilot and ab initio flight instructor holding professional pilot licences of New Zealand and Fiji. He is also Multi Engine Instrument and Amphibian/Floatplane rated and holds an Australian RPAS Pilot (Drone) Licence.

Director – Mr. Ashneel Chand

Mr Ashneel Chand was recently appointed in August this year as the Group Manager Financial Reporting at Neptune Pacific Direct Line.

He previously worked at Fijian Holdings Limited for about 5 years where he held the position of Manager Finance. Prior to joining FHL, Mr Chand worked for Ernst & Young as a Senior Auditor for 4 years. He has extensive experience in financial accounting and auditing that will be beneficial in enhancing legal financial compliance and practices at the Authority. Mr Chand has a Bachelor of Commerce majoring in accounting and information system from the University of the South Pacific, Post Graduate Diploma in professional accounting and is a member of CPA Australia.

Director – Mr. Mikaele Leawere

Mr Mikaele Leawere is a former Member of Parliament (2015-2022) and was recently appointed as Special Advisor – Ministry of Education. His passion lies with education, having held teaching and senior education officer positions in Government. Mr Leawere holds a Bachelor of Arts in Education and Applied Psychology and a Postgraduate Certificate in Human Resource Management from the University of the South Pacific and a Postgraduate Certificate in Management from the University of Sunshine Coast, Brisbane. Mr Leawere is also a Board member of the Fiji Blind Society and has written two books called 'Two in One' and 'Wiliwili (Ginti)'. Mr Leawere has almost 50 years of work experience particularly in the public sector that will be beneficial to the CAAF.

Director – Mr. Arvind Singh

Mr Arvind Singh's professional career began at CAAF where he worked in administration and accounts. Mr Singh later joined Continental Airlines, Air Terminal Services Fiji Ltd and Canadian airline in the area of traffic. Mr Singh is currently a land developer having worked on and currently working on subdivision development and hotel projects in Momi Bay.

Mr Singh was also the Vice President of Votualevu Gramm Mirtaq Sahiyog Sanstha, member of Nadi Rural Local Authority Board, Board member of Votualevu Public School and Votualevu College and has been serving as a Justice of the Peace from 2001 to date■

Importance of Pilot's & Engineers Licence

Aviation safety is a critical aspect of the aviation industry, ensuring the well-being of passengers, crew members, and the general public. The licensing requirements for pilots and engineers play a crucial role in maintaining this safety.

Pilot's Licence

Obtaining a pilot's licence involves rigorous training and evaluation to ensure that pilots possess the necessary skills and knowledge to operate an aircraft safely. The licensing process typically includes theoretical exams, practical flight training, and a minimum number of flight hours. Pilots must demonstrate proficiency in areas such as navigation, meteorology, aircraft systems, emergency procedures, and aviation regulations.

The pilot's licence is categorized into different levels, such as private pilot, commercial pilot, and airline transport pilot. Each level has specific requirements and privileges, with higher levels requiring more experience and training. Regular medical examinations are also mandatory to ensure pilots are physically and mentally fit to fly.

Engineer's Licence

Engineers in the aviation industry, commonly known as aircraft maintenance engineers (AMEs), are responsible for ensuring the airworthiness of aircraft. They play a crucial role in maintaining and repairing aircraft systems to ensure safe operations.

To obtain an engineer's licence, individuals must complete an approved training program and gain practical experience. The training covers various aspects of aircraft maintenance, including airframe, powerplant, avionics, and other specialized systems. AMEs must pass theoretical exams and practical assessments to demonstrate their competence in maintaining and repairing aircraft.

The engineer's licence is further categorized into different categories, such as airframe, powerplant, and avionics. Each category requires specific training and qualifications, ensuring that engineers have expertise in their respective areas.

Importance of Licensing

Pilot and engineer licensing is crucial for aviation safety. These licences ensure that individuals operating and maintaining aircraft have undergone standardized training and evaluation processes. By obtaining a licence, pilots and engineers demonstrate their competence and understanding of aviation regulations, procedures, and safety protocols.

Licensing also promotes ongoing learning and professional development. Pilots and engineers are required to stay updated with the latest advancements in their fields through recurrent training and examinations. This continuous learning helps them adapt to new technologies, regulations, and safety practices, further enhancing aviation safety.

In conclusion, pilot and engineer licensing are vital components of aviation safety. These licences ensure that individuals operating and maintaining aircraft have the necessary skills, knowledge, and ongoing training to ensure safe operations. By adhering to licensing requirements, the aviation industry can maintain high standards of safety and protect the well-being of all those involved in air travel■

Power To Require Information

DID YOU KNOW?

An authorised person may exercise the Civil Aviation Authority of Fiji 's (Authority) powers or functions under section 12A(1) of the Civil Aviation Authority of Fiji Act 1979 (Act).

The authorised person may require the production of, examination, and take extract copies of any document or part of any document under section 12A(2)(f) of the Act.

Who is an authorised person?

A person who is or has been a member, officer or employee of the Authority in section 17B(1) of the Act.

How can the Authority obtain information?

Information for audits and inspections

By notice in writing the Authority has the power to require information from any person for the purposes of audits and inspections under section 17A of the Act.

Penalty for non– compliance — fine not exceeding $5,000.
Imprisonment term not exceeding 12 months.

Also a person must not alter, suppress or destroy any document that is required by notice in writing from the Authority.

Penalty for non– compliance —— fine not exceeding $5,000.
Imprisonment term not exceeding 12 months.

Information for investigations

A person who refuses or fails to furnish information within the time specified in the notice commits an offence under section 12B(c) of the Act.

Penalty for non– compliance by an operator —— fine not exceeding $10,000.
Penalty for non— compliance in any other case —— fine not exceeding $2,000■

CAA Fiji is keen to hear from you regarding our levels of service. If you believe you have constructive ideas on how we can improve our services, or would like to report instances where we have failed to meet your expectations, please send your feedback to CAAF, preferably using the QA 108 form that can be accessed from our website. This can be sent to CAAF via email or dropping it in the feedback box in the foyer of CAAF HQ, or

emailing to :

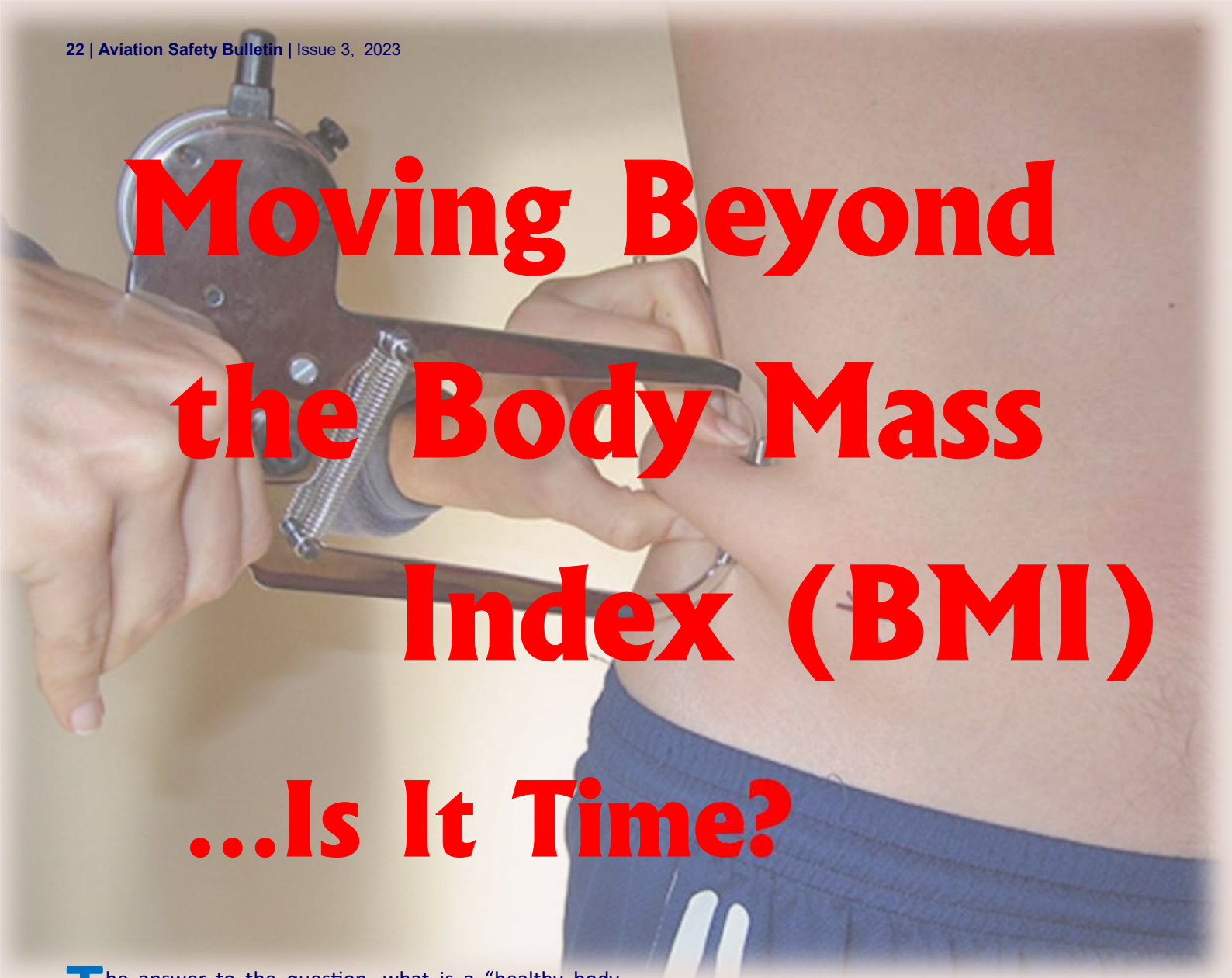
info@caaf.org.fj

FCAIR

FIJI CONFIDENTIAL AVIATION INCIDENT REPORTING FORMS AVAILABLE ON WEBSITE

www.caaf.org.fj

***OR* FRONT DESK, CAAF HQ.**



Moving Beyond the Body Mass Index (BMI) ...Is It Time?

The answer to the question, what is a "healthy body weight?" is still elusive, least of all to medical professionals.

Adolphe Quetelet, a Belgian statistician in 1832 introduced the concept of body mass index (BMI) – one's weight (in kilograms) divided by the square of one's height (in meters) as a measurement of ideal body weight.

The adoption of BMI as a surrogate marker for evaluating body fat percentage within a population was proposed ~140 years later by nutritional epidemiologist Ancel Keys.

The scientific and medical communities for the past few decades have used BMI as a research and study tool to categorise patient's weight (ie. severely underweight, underweight, normal weight, overweight and obesity).

The World Health Organisation (WHO), National Institutes of Health and US Centres for Disease Control and Prevention use the following BMI classifications for adult patients:

- **@ Underweight: BMI < 18.5**
- **@ Normal weight: BMI >/= 18.5 – 24.9**
- **@ Overweight: BMI >/= 25 to 29.9**
- **@ Obesity: BMI >/= 30**

The attractiveness of the BMI is that it is a straightforward, easy and cost-effective way to assume "healthy weight" and assess a patient's risk for related diseases.

Eg. BMI >/= 35 is associated with a higher prevalence of type 2 diabetes mellitus, hypertension, dyslipidaemia which are risk factors to cardiovascular and cerebrovascular disease. In addition, various types of cancers have been linked to obesity regardless of dietary or physical activity behaviours.

But is BMI alone sufficient to determine healthy weight and disease risk in the BMI range 25-35?

LIMITATIONS OF BMI

BMI only takes into account height and weight neither of which are sole determinants of health.

BMI do not distinguish between fat mass and fat-free mass, each of which have distinct effects on health. High fat mass is associated with an increased risk for disease and mortality while high lean body mass is associated with increased physical fitness and lifespan.

BMI is blind to age, sex, race, ethnicity or types of adipose tissues which influence disease risk across all BMI categories.

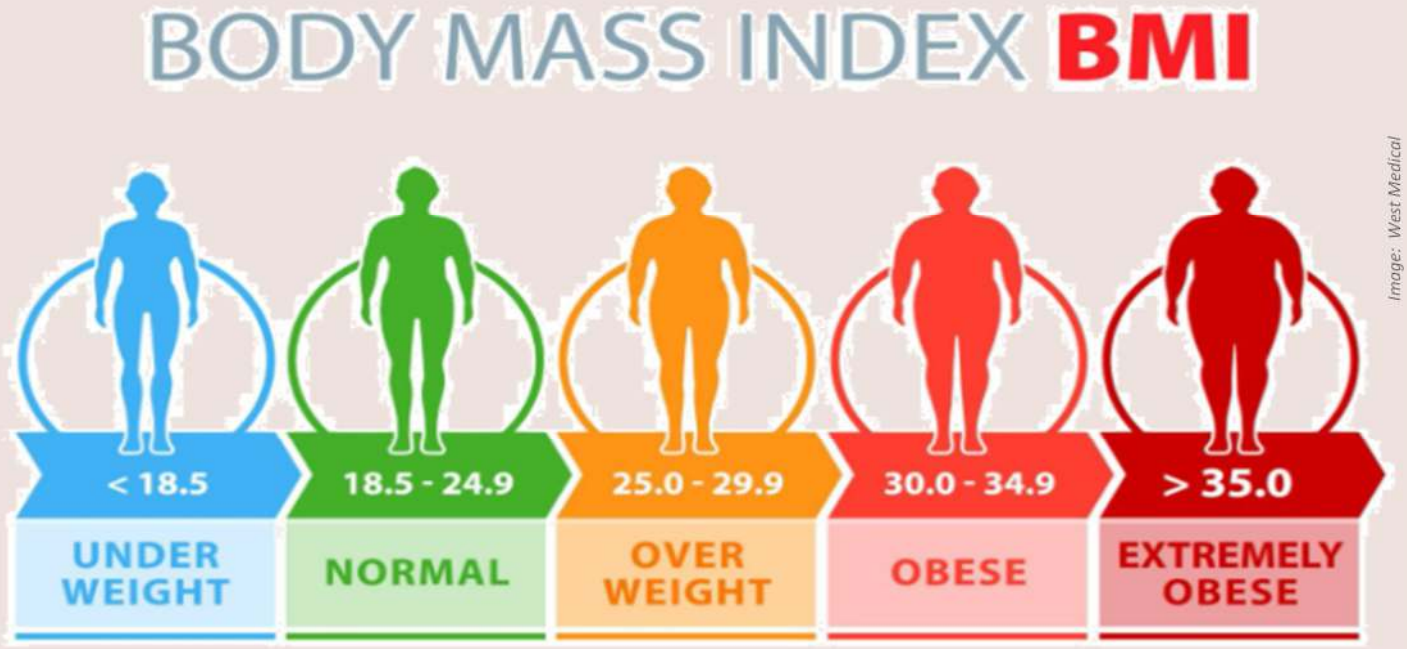


Image: West Medical

BODY COMPOSITION AND ADIPOSE TISSUE

Body composition and type of excess adipose tissue better correlate to disease risk then the BMI.

The World Health Organisation defines obesity as a body fat percentage;

>25% for men

>35% for women

Body composition is measured by; skin fold thickness, bioelectrical impedance, dual-energy x-ray absorptiometry (DEXA), CT scan or MRI scan.

In a cross-sectional study comparing BMI and DEXA (a direct measurement of fat) it was found that while BMI assessed 26% of participants as obese, DEXA was 64%. Also 39% of patients assessed as non-obese by BMI were found to be obese by DEXA.

In addition, BMI misclassified 25% of men and 48% of women in the study. Other studies have had similar conclusions that BMI has a high specificity but low sensitivity for diagnosing obesity making it less reliable as a screening tool.

Current guideline recommendations on pharmacologic and surgical treatment options for patients with overweight or obesity, including those of the American Association of Clinical Endocrinology and American College of Endocrinology (AACE/ACE) and the American College of Cardiology/American Heart Association and The Obesity Society (ACC/AHA/TOS), rely on BMI, diminishing their utilization. For example, a recent literature search by Li and associates found that Asian American patients with lower BMIs and BMIs of 25 or 27 are at increased risk for metabolic disease. On the basis of study findings, some organizations recommend considering pharmacotherapy at a lower BMI cutoff of ≥ 25.0 or ≥ 27.5 for Asian people to ensure early treatment intervention in this patient population because guidelines do not recommend pharmacologic treatment unless the BMI is 27 with weight-related complications or 30. Under the current guidelines, a patient of Asian descent has greater disease severity with potentially more complications by the time pharmacotherapy is initiated■

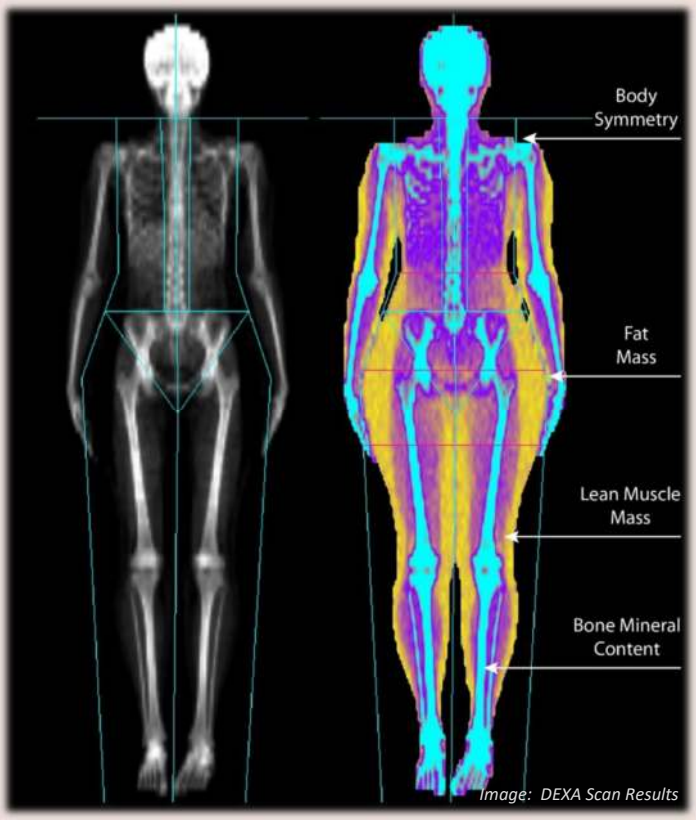


Image: DEXA Scan Results

Author: Dr Isireli Biumaitotoya

CERTIFIED ISO 9001

Civil Aviation Authority of Fiji

"Be someone who is concerned with safety first at all times."

More info @ www.caaf.org.fj